

Application No. 09/928,294

Request for Continued Examination and Response to Final Office Action of January 29, 2007

Amendments to the Drawings:

Replacement Sheets are enclosed for sheets 3, 16, and 31.

Marked-up Annotated Sheets are also enclosed for sheets 3, 16, and 31.

Cancel sheets 34 and 35 (Figures 45–46).

There are now a total of 33 drawing sheets pending.

REMARKS / ARGUMENTS

Amended Specification

Applicant herewith submits a Substitute Specification that includes amendments detailed in Appendix A which is a marked-up copy of the substitute specification showing all changes to the text relative to the immediate prior version of the specification. This Substitute Specification contains no “new matter”.

The original application focused on handheld game systems 28, 44, 47, 184, and 191 being operated as smart controllers that controlled video game console 42. Applicant now elects a different species in the present RCE with new claims that are directed to handheld game systems that are independently operable and use polygon graphics. To avoid confusion between “control unit 185” and handheld game system 28 that were both termed “control units” in the original Specification, most references to “control unit” have been amended to read “handheld game system” or simply “unit” or “system”. These amendments find support in the last sentence of paragraph [0086] which originally read: “Memory cartridge 16 is typically used when control unit 28 is used as a stand-alone handheld game system.”

Paragraph [0069] (see Appendix A) that was incorrectly~~ly~~ located has been moved and replaces prior paragraph [0093]. Paragraph [0105] has been moved and renumbered as paragraph [0200] near the end of the Substitute Specification.

Paragraph [0189.1] has been added to provide a prior-art example of a polygon representation (illustrated in new Fig. 42a) to clarify that prior-art polygon graphics was referenced in paragraph [0097] and Fig. 20 “polygons” of the original Specification. The reference to “shape” in paragraph [0097] finds support in the third line of paragraph [0096] “hand 37 shaped as a fist”.

Amended Drawings

Replacement Sheets are enclosed for sheets 3, 16, and 31.

Marked-up Annotated Sheets are also enclosed for sheets 3, 16, and 31.

Sheet 3 (Fig. 3) is amended to conform the shape of the handheld game system to the rectangular shape shown in Figures 1, 7, 16, and 39.

Sheet 16 (Fig. 24) is amended to change reference number ~~146~~ to 146a at the lower left of Fig. 24, because 146 was duplicated at the far right of Fig. 24. The word ~~controller~~ is amended to handheld and finds support in the last line of paragraph [0086] (see Appendix A). Battery 130 is added to Fig. 24 and is implicit in handheld game systems. External memory cartridge 16 is added to Fig. 24 and finds support in Fig. 4. Touchscreen controller 51 is deleted from Fig. 24 and is already in Fig. 4.

Sheet 31 (Fig. 42) is amended to add Fig. 42a to illustrate prior-art polygon graphics which finds support in paragraph [0097] and Fig. 20 “polygons” data.

Applicant respectfully requests that the three Replacement Sheets 3, 16, and 31 filed herewith be entered.

Amended Abstract

Support for the amended abstract is found in Figures 2 and 11, and in paragraphs [0086], [0088], and [0097] which are from page 16 line 35, page 17 lines 8–13, and page 19 lines 29–32 in the original application filed August 10, 2001.

Claim Rejections - 35 USC §102

Claims 352–374 are now pending.

In the Office Action dated January 29, 2007, prior claims were rejected under 35 USC 102(a) as being anticipated by the PSone game system, as described in Internet article <http://www.answers.com/topic/playstation-1> (subheading PSone).

Electric power to the PSone is not supplied by a “handheld electric power source in said housing” as required by applicant’s claim 352 element (e). Instead, power to the PSone is supplied by a car battery or other external power source. Even if a battery pack were capable of supplying sufficient power to the PSone and was light enough to be clipped on a player’s belt or pocket, such a power supply would not satisfy applicant’s claim element (e) that the power source be handheld and be in the housing of the handheld game system.

Applicant’s element (e) has the further limitation that the processor(s) in the handheld game be “capable of processing when powered solely from said handheld electric power source” in the housing. It is well known that video game systems contain graphics processing chips that consume more power than would be practical for handheld batteries. Attaching a portable LCD screen to a high power video game system makes the system more portable, but does not transform the system into an internal battery powered handheld game system. Handheld internal battery power is implicit in the term of art “handheld game system”.

Applicant therefore respectfully submits that the PSone does not anticipate applicant’s handheld game system as defined by the currently pending claims.

Claim Rejections - 35 USC §103

In the Office Action dated January 29, 2007, prior claims were rejected under 35 U.S.C 103(a) as unpatentable for obviousness over PSone in view of Hames (US 6,565,440) or Aroyan et al. (US 6,163,313) or Eck et al. (US 6,716,103).

The Hames patent teaches a handheld controller that uses a wireless link, as stated by the Examiner. Applicant's pending claims do not mention wireless and hence Hames is moot. The Eck patent teaches downloading of program instructions from the Internet as stated by the Examiner. Applicant's pending claims do not mention the Internet and hence Eck is moot. The Aroyan patent teaches a touchscreen for use with LCD screens as stated by the Examiner. Applicant's pending claims recite touchscreens only in claims that are dependent on new independent claims that are believed to be allowable. Hence the reference to Aroyan is moot.

Applicant's pending claims define an independently operable handheld game system that houses processor(s) that generate pixel data for display on a discrete display device such as an LCD and houses an electric power source such as a battery that provides ample power for the processor(s) during handheld use. Examples of the closest prior art are independently operable handheld game systems that house processor(s) that generate pixel data for display on an LCD and house an electric battery that provides ample power for the processor(s) during use. Such examples include Okada et al. (US 6,315,669), Ota et al. (US 6,743,104), Kawase (US 7,025,677), and several others. Lacking in Okada, Ota, Kawase, and other such handheld game systems is any suggestion of polygon vertex data as recited in applicant's claim 352 elements (c) and (d).

As stated by the Examiner, the PSone utilizes a processor core capable of 3D graphics and polygonal vertex data processing. Several other video game systems likewise use a 3D graphics processor such as the processor described by Cheng et al. (US 6,717,577) or Van Hook et al. (US 6,342,892) that are comparable to the Geometry transformation engine cited by the Examiner for the PSone.

Okada, Ota, and Kawase describe battery powered handheld game systems, but there is no suggestion of polygon graphics in Okada, Ota, or Kawase. The PSone reference and other references such as Miyamoto et al. (US 6,454,652) describe video game systems that have processors that perform polygon graphics, but there is no suggestion in PSone or Miyamoto that the processor may do polygon graphics in a battery powered handheld game system. Cheng describes a polygon graphics processor, but he does not suggest that his processor may operate in a battery powered handheld game system. Likewise there is no such suggestion in Van Hook that his graphics processor may be in a battery powered handheld game system.

Applicant respectfully submits that a combination of the suggested references would neither teach, show, describe, nor remotely suggest that a handheld game system may have processor(s) that perform polygon graphics and be limited by the electric power available from the handheld electric power source, such as a battery, (whenever external power is not being used for recharging) as required by applicant's claim 352. Prior-art handheld systems do not do polygon graphics and prior-art processors designed for polygon graphics cannot be battery powered in untethered handheld systems. Therefore the invention claimed by applicant's claim 352 was not obvious to those skilled in the video game art on applicant's priority date.

With reference to a video game system that performs polygon graphics, Miyamoto mentions battery backup for preserving data in RAM 51, but teaches away from battery powered processors at column 6, lines 51–55:

“This power source may comprise a conventional AC adapter (not shown) that plugs into a standard home electrical wall socket and converts the house voltage into a lower voltage DC signal suitable for powering console 52.”

Graphics processors designed for use in video game systems that use electric power derived from 120/240 vac power or car battery power are not designed for the low power constraints of battery powered handheld game systems as required in applicant’s claim 352 element (e). Therefore it would not have been obvious to perform polygon graphics in a battery powered handheld game system.

As stated in Ex parte Levengood, 28 U.S.P.Q.2d 1300 (P.T.O.B.A.&I. 1993), the US Patent and Trademark Office “can satisfy the burden of establishing a *prima facie* case of obviousness only by showing some objective teaching in either the prior art, or knowledge generally available to one of ordinary skill in the art, that would lead that individual to combine the relevant teachings of the references.”

Applicant submits that there are no relevant teachings regarding 3-D polygon graphics in a battery powered handheld game system in the PSone article, Okada, Ota, Kawase, Miyamoto, Van Hook, or Cheng, either alone or in combination.

Applicant therefore submits that pending claim 352 and claims dependent thereon define an invention that was not obvious on applicant's priority date and hence are allowable over the combined teachings of PSone, Harmes, Aroyan, Eck, Okada, Ota, Kawase, Miyamoto, Cheng, and Van Hook.

Similar arguments to those directed to claim 352 may also be directed to independent claims 366, 371, 373, and claims dependent thereon.

Summary

1. None of the cited references suggest all of the features uniquely claimed by applicant, namely, an independently operable handheld game system that houses processor(s) that use polygon graphics to generate pixel data representing 3D objects for display on a handheld LCD and capable of processing when powered solely by a handheld battery, all in the same housing during handheld use.
2. The cited references fail to show some objective teaching that would lead a skilled person to combine the relevant teachings of the cited references.
3. Combining the teachings of the cited references would fail to teach all of the limitations in applicant's claims.

Applicant submits that the present pending claims are allowable and a favorable decision is respectfully requested.

Respectfully submitted,

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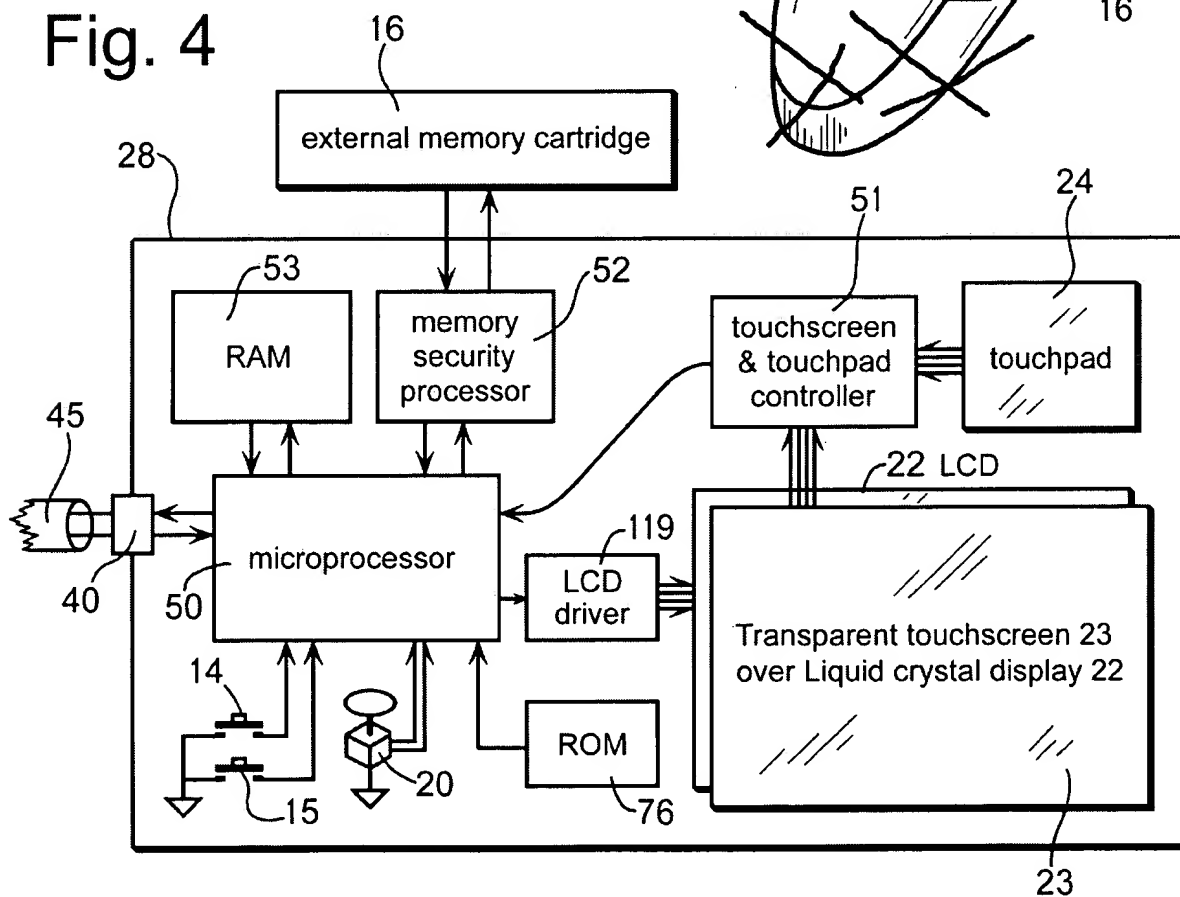
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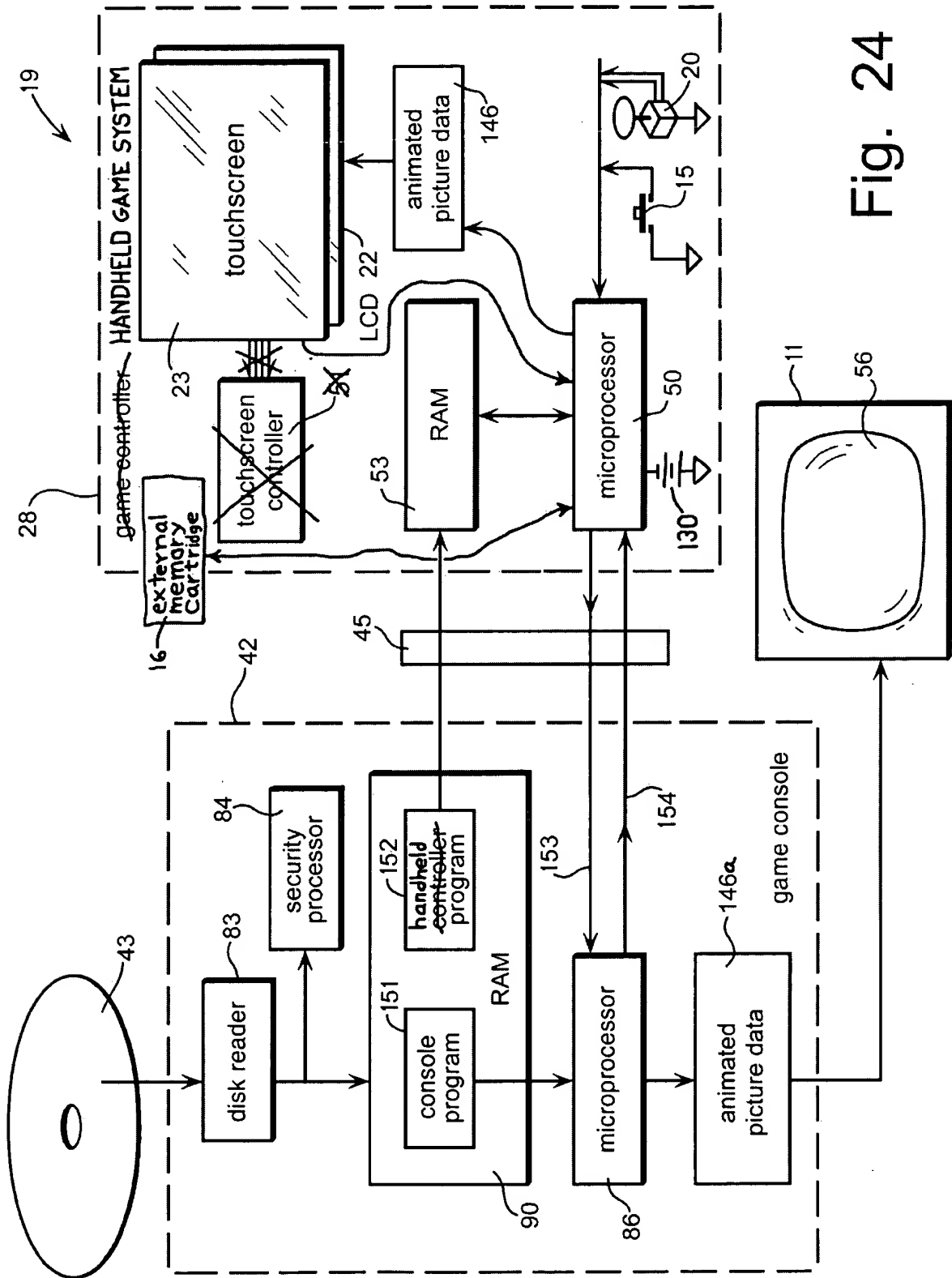


Fig. 24